

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A numerical controller for controlling a machine according to a machining program, comprising:

a storage device or medium storing input/output units each including program block data obtained by dividing the machining program so that divided portions of the machining program are stored in respective ones of the input/output units, each input/output unit storing additional information associated with the program block data stored in the input/output unit, said additional information including an effective data length of the program block, front link data designating an input/output unit immediately preceding each input/output unit in a sequence of the machining program, and rear link data designating an input/output unit following each input/output unit in the sequence of the machining program;

a processor processing the input/output units to run the machining program; and

an interface inputting/outputting the input/output units between said storage device or medium and said processor.

2. (Previously Presented) A numerical controller according to claim 1, wherein said processor reads a first input/output unit including a program block corresponding to a beginning part of the machining program and successively reads input/output units stored in said storage device or medium according to rear link data in the previously read input/output unit through said interface, and wherein said processor successively executes the program blocks included in the read input/output units.

3. (Previously Presented) A numerical controller according to claim 2, wherein when a branch instruction is included in the program block of the input/output unit when it is executed by said processor, said processor reads the input/output unit preceding the input/output unit being executed using the front link data and reads the input/output unit following the input/output unit being executed using the rear link data to search for a line designated by the branch instruction.

4. (Previously Presented) A numerical controller according to claim 2, wherein said additional information further includes data specifying an input/output unit including a line

designated by a branch instruction, and when the branch instruction is included in the program block of the input/output unit being executed, said processor reads the input/output unit specified by the data.

5. (Original) A numerical controller according to claim 1, wherein said processor reads only an input/output unit or input/output units to be edited from said storage device or medium through said interface.

6. (Original) A numerical controller according to claim 5, wherein said processor reads only an input/output unit to be edited and modifies a program block and an effective data length included in the read input/output unit.

7. (Previously Presented) A numerical controller according to claim 5, wherein said processor deletes an input/output unit by changing rear link data of a preceding input/output unit designated by front link data of the input/output unit to be deleted to rear link data of the input/output unit to be deleted, and by changing front link data of a succeeding input/output unit designated by rear link data of the input/output unit to be deleted to the front link data of the input/output unit to be deleted.

8. (Previously Presented) A numerical controller according to claim 5, wherein said processor adds a new input/output unit including program block data and additional information, changes rear link data of a preceding input/output unit designated by front link data of the input/output unit to be added to data specifying the input/output unit to be added, and changes front link data of an input/output unit designated by the rear link data of a succeeding input/output unit to be added to data specifying the input/output unit to be added.

9. (Previously Presented) A numerical controller for controlling a machine according to a machining program, comprising:

a storage device storing a plurality of input/output units, each of the input/output units storing program data obtained by dividing the machining program so that divided portions of the machining program are stored in respective ones of the input/output units, each of the input/output units storing additional information associated with the program data stored in the input/output units, the additional information including first link data designating an input/output unit immediately preceding each input/output unit in a sequence of the machining program, and

second link data designating an input/output unit following each input/output unit in the sequence of the machining program; and

a processor processing the input/output units to run the divided portions of the machining program stored in the input/output units.

10. (Previously Presented) A numerical controller according to claim 9, wherein when a branch instruction is included in the program block of an input/output unit being executed by said processor, said processor reads the input/output unit preceding the input/output unit being executed using the first link data, and reads the input/output unit following the input/output unit being executed using the second link data.

11. (Previously Presented) A numerical controller according to claim 9, wherein said processor deletes an input/output unit by changing the second link data of a preceding input/output unit designated by the first link data of the input/output unit to be deleted to the second link data of the input/output unit to be deleted, and by changing the first link data of a following input/output unit designated by the second link data of the input/output unit to be deleted to the first link data of the input/output unit to be deleted.

12. (Previously Presented) A numerical controller according to claim 9, wherein said processor adds a new input/output unit including program data and additional information, changes the second link data of a preceding input/output unit designated by the first link data of the input/output unit to be added to data specifying the input/output unit to be added, and changes the first link data of an input/output unit designated by the second link data of the succeeding input/output unit to be added to data specifying the input/output unit to be added.

13. (New) A method of numerically controlling a machine, the method comprising:
dividing a storage device into a plurality of input/output units;
dividing a machining program into a plurality of divided portions;
storing the divided portions of the machining program in respective ones of the input/output units;
storing first link data designating an input/output immediately preceding each input/output unit in a sequence of the machining program in each of the input/output units;
storing second link data designating an input/output unit following each input/output unit in the sequence of the machining program; and

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processing the input/output units to run the divided portions of the machining program stored in the input/output units.